

Running head: FALL AND INJURY REDUCTION PROGRAM

Fall and Injury Reduction Program for the Elderly  
and/or Physically Handicapped

Leading Community Risk Reduction

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### CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: \_\_\_\_\_

## Abstract

The problem is that Eau Claire Fire/Rescue Department (ECFD) does not have a fall or injury prevention program in place for elderly and physically handicapped citizens. This action research methodology will develop a injury reduction program for ECFD. Research answered the following questions: (a) what programs have been initiated by other organizations to reduce falls? (b) why is ECFD and associated agencies interested in a fall prevention/injury reduction program? (c) who are the major stakeholders?

Procedures consisted of literary review and informal interview. Results found that falls are a problem in the City of Eau Claire, and are preventable. Recommendations included development of a referral form and partnership with another agency that will complete a home fall inspection.

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Fall and Injury Reduction Program for the Elderly  
and/or Physically Handicapped

Introduction

In America falls are the leading cause of injury deaths, and the most common cause of nonfatal injuries and hospital admissions for trauma in the elderly population. Each year nearly one third of elderly adults experience a fall. (Centers For Disease Control And Prevention, 2006, p. 1) According to the Centers for Disease Control (CDC) in 2003 more than 13,700 people 65 years or older died of fall-related injuries. Another 1.8 million were treated in emergency departments for nonfatal injuries related to falls. The CDC claims the total direct cost for falls among older adults in 2000 was about \$19 billion. Given the growing population of this age group, this cost is expected to reach \$43 billion by 2020. (Centers For Disease Control And Prevention, 2006, p. 1)

However many falls are preventable. The fire and Emergency Medical Services (EMS) are in a perfect position to help stop the suffering and loss of independence that come with older people who fall. (Tait & Taigman, 2006) The elderly frequently call for emergency medical services which allow fire/EMS responders the opportunity to see them in their homes. They are thus in a position to observe the living conditions of the

elderly firsthand, a situation that allows fire/EMS responders to be the first to assist the elderly. (Gerson, Hoover, McCoy, & Palmisano, 1991, p. 45)

Fire and EMS are community-based organizations. They must be attuned with the needs of the community. As Weiss, Chong, Ong, Ernst, and Balash (2003, p. 81) stated the majority of calls that the fire service responds to are EMS incidents and "Fire/EMS programs now need to refocus their prevention efforts to the medical problems with which we are dealing". The involvement of the fire service/EMS in preventing injuries is a valuable service that can help older adults maintain their independence.

The problem is that Eau Claire Fire/Rescue Department (ECFD) does not have fall or injury prevention program in place for elderly and physically handicapped citizens. This lack of a comprehensive prevention/injury reduction program, from pre-fall to post-fall, is resulting in unnecessary falls and injuries to the population demographic in the City of Eau Claire.

The purpose of this research is to develop a comprehensive fall prevention and injury reduction program for the City of Eau Claire that will be submitted for approval and implemented. This research will identify the major players who can assist ECFD in the development and operation of a comprehensive fall

prevention/injury reduction program for their elderly and physically handicapped citizens.

The action research method will be used to answer the following questions:

1. What programs have been initiated by other organizations to reduce falls and the associated injuries to the elderly and physically handicapped?
2. Why are ECFD and associated agencies interested in a fall prevention/injury reduction program to led by ECFD?
3. Who are the major stakeholders that are interested in participating in a fall prevention/injury reduction program for the City of Eau Claire?

#### Background and Significance

Eau Claire Fire/Rescue Department has been in existence since 1887 providing basic first aid and fire protection to the City of Eau Claire, which is located in Eau Claire County. In 1975 one of the cities private transporting ambulance services went out of business allowing ECFD to begin patient transport. This service was provided at the Basic Life Support (BLS) level by Emergency Medical Technician Basics (EMT-B) until 1985. In 1985 EMT-B's on the department were trained to the Emergency Medical Technician Defibrillation (EMT-D) level. The next step in the EMS progression came in 1990 when the EMT-D's were

trained to the Emergency Medical Technician Intermediate (EMT-I) level, which included an intubation module. This was the beginning of Advanced Life Support (ALS) service to the City of Eau Claire. The final step was in 1995 when nine of the department's EMT-I's graduated from Chippewa Valley Technical College (CVTC) Emergency Medical Technician Paramedic (EMT-P) program and ECFD implemented paramedic level response.

ECFD currently provides EMS, technical rescue, hazardous materials, fire prevention and fire protection to the City of Eau Claire. The City of Eau Claire's estimated 2005 population is 62,570 (US Census Bureau, 2006). The total area protected by six fire stations is 30.3 square miles. The six stations are equipped with two BLS/ALS quints, four BLS/ALS engines, one BLS/ALS heavy rescue vehicle, three ALS first line ambulances, and three BLS/ALS reserve ambulances. Total number of responses for ECFD during 2006 was 5901. EMS incidents comprised the majority of incidents as ECFD responded to 4720 EMS calls during this period. (E. Kassing, personal communication, August 31, 2007)

The staffing of ECFD units varies daily depending upon available personnel that day. All quints and engines are staffed with at least three personnel. Usually this staffing includes a fire officer, a Motor Pump Operator (MPO), and a firefighter



trained to either the EMT-B or EMT-P level. Each first line ambulance is staffed with two EMT-P's. If an engine or quint company is taken out of service the reserve ambulances can be staffed as either a BLS or ALS unit depending upon EMS training level of the engine or quint personnel. Presently ECFD has a total of 90 sworn personnel. Of these personnel all are certified to the Firefighter II level. 38 fire personnel are trained to the EMT-P level with the remainder trained to the EMT-B level.

In 2006 approximately 80 percent of the responses made by Eau Claire Fire/Rescue were medical in nature. Of those responses 16 percent are for falls. Of this 16 percent of falls 31 percent are what we call Personal Medical Assistance (PMA's) calls. (E. Kassing, personal communication, August 31, 2007) PMA's are incidents in which a fall has occurred and the person is not injured but simply needs help getting back up. These PMA type of incidents are determined by the Eau Claire County Dispatch Center using the Priority Dispatch Emergency Medical Dispatch (EMD) system. The EMD system determines the level of EMS response based on a series of questions that are asked of the caller. If it is determined that the EMS incident is a fall with no injuries, an engine company is dispatched non-emergently to the incident scene to assess the patient and assist them back

up. If injuries are found an ambulance is dispatched to transport the patient. If no injuries are found the patient is then assisted back up and a Treat and Release/PMA form is completed (see Appendix A).

The problem is that Eau Claire Fire/Rescue does not have a risk reduction program to address fall prevention for the elderly and physically handicapped. This lack of a risk reduction program does not allow the Eau Claire Fire/Rescue department to effectively address one of the United States Fire Administration (USFA) major goals of having a comprehensive, multi-hazard risk reduction plan in place for elderly and/or physically handicapped citizens. This research is being conducted to meet the United States Fire Administration (USFA) Operational Objectives, which includes reducing by 25 percent the loss of life of the age group 65 years old and above.

This research is also being conducted to fulfill the applied research project requirements for the *Leading Community Risk Reduction* class in the National Fire Academy's (NFA) Executive Fire Officer Program (EFOP). The concepts learned in the class have been applied to the stated problems of this research project. The areas to be used are implementing and leading a community risk-reduction initiative and gaining community

endorsement and buy-in for a risk-reduction process. (U.S Fire Administration, 2005, p. SM0-15)

### Literature Review

The majority of research regarding a fall reduction program for elderly and/or physically handicapped persons was found at the National Fire Academy (NFA) Learning Resource Center (LCR) located in Emmitsburg, Maryland and on the World Wide Web. Information from the LCR provided background on what other agencies are doing to address this issue. The Internet sources provided demographics and validated the importance of implementing a fall reduction program.

The literature review attempted to investigate the findings of other researchers who have identified falls as a critical issue in their community. A large amount of data exists that summarizes fall type of injuries to older citizens. This first section of the literature review will attempt to determine if a problem exists.

#### Elderly Fall Injuries and Deaths

The "older/elderly population" is defined by the CDC as the segment of the population that is age 65 and older. In 2006 a total of 35.6 million older Americans constituted approximately 12.3 percent of the total population. The State of Wisconsin's

older population is 13 percent while the City of Eau Claire is 11.9 percent. (U.S. Census Bureau, n.d.)

When researching the physically handicapped population it was found that in the State of Wisconsin 24.1 percent of persons 65 or older have a physical handicap. Eau Claire County data shows that 25.2 percent of citizens over 65 years of age have a physical disability. (Wisconsin Department Of Health And Family Services, 2005) For the purpose of this research paper older and physically handicapped people will be treated as the same due to the fact that they share the same fall hazards at home.

As stated in the introduction section of this paper, falls in the elderly population comprise the leading cause of death and injury in the United States. This also holds true for the State of Wisconsin where falls are the leading cause of both death and injury in the years of 2002-2004 for the elderly population. (Wisconsin Department of Health and Family Services, 2006, p. 7) Wisconsin Department of Health and Family Services (2001, p. 19) data shows that for the time period of 1989-1998 they had 376 fall deaths per year, which are 150 deaths more each year than the national average. Wisconsin Department of Health and Family Services (2006, p. 43) lists falls as the leading cause of injury deaths in the elderly population in Eau Claire County with 35 deaths in the years of 2002-2004. They

also show that falls in Eau Claire County are the leading cause of injury hospitalizations, with 895 during this same time period. (Wisconsin Department of Health and Family Services, 2006, p. 43)

#### Financial Costs

Falls in the elderly/physically handicapped incur large financial burdens. The National Center for Patient Safety estimates that the average cost of a fall with injury was \$33,785, with a range between \$180 and \$240,000. (National Center For Patient Safety, 2004, p. 1) Wisconsin Department of Health and Family Services (2006, p. 7) data shows that elderly citizens in Wisconsin had 26,294 injury hospitalizations during the years of 2002-2004 and 48,909 injury emergency department visits. These hospitalizations and emergency department visits led all other injury types. This same report shows during the same time period that Eau Claire County had 895 injury hospitalizations and 1,195 injury emergency department visits. These hospitalizations and emergency department visits also rank as the highest in all injury categories. Included in this same report is the cost per visit to the emergency department and hospitalization for not only fall type injuries but all injury-related categories in Eau Claire County. The average charge for emergency department visits during 2002-2004 was \$493.66. The

average charge for inpatient hospitalization was \$12,048.15. The average length of stay was 4.83 days with an average charge of \$2494.58 per day. (Wisconsin Department of Health and Family Services, 2006, p. 7) Colwell, Murphy, and Bryan (2006) in their article *Geriatric Trauma* reinforce the fact that elderly falls are costly in that while the elderly represent 12 percent of the population, they account for more than 36 percent of all ambulance transports and 25 percent of hospitalizations.

### Cause of Falls

What is causing these falls to this population? The U.S. Consumer Product Safety Commission (2003, p. 2) lists the following as causes:

- Falls down stairs (while descending or ascending)
- Transitioning from standing to sitting (and vice versa) on furniture, toilets, beds, bathtubs, etc.
- Falls from tripping over loose carpets, cords, and other obstacles on the floor.
- Falling off ladders and step stools.

In 2001 a study involving Sacramento City Fire/EMS was completed in trying to determine whether EMS could be a valuable partner in an elderly injury prevention program. This study involved over 800 patients who were over the age of 65 and who had called 9-1-1 for assistance due to a fall, but refused

transport to a hospital because they did not sustain serious injuries. EMS/fire service personnel were trained to complete the screening tool based on observations from the homes of the elderly patients who called the EMS/fire service for assistance. The results of the study found that significant problems were found with the patients' environment in up to 53 percent of the cases. Items listed as environmental concerns were doormats/rugs not secure and flat, walking areas cluttered, extension cords in the path of travel, handrails/grab bars not secured, nightlights not in appropriate places, and cabinets/shelves not easy to reach. In up to 77 percent of the falls, health issues such as vision problems, hard of hearing, difficulty walking, and multiple medications contributed to the falls. (Weiss, Chong, Ong, Ernst, & Balash, 2003)

In their article *Taking EMS into Tomorrow*, Tait and Taigman (2006) found that one-third or more of all falls have some kind of environmental causes such as throw rugs, dog toys, or stack of newspapers on the floor, which cause people to trip over them. People taking multiple medications are at a greater risk of falling because several of the commonly prescribed medications reduce mental alertness, cause blood pressure to drop and make people dizzy. People who spend most of the day

sitting increase their risk of falling due to poor muscle tone, loss of bone and muscle mass, and decreased flexibility.

### Fall Prevention Measures

The CDC has funded many programs addressing fall reduction in the elderly population. These programs vary from publishing the *Tool Kit to Prevent Senior Falls*, to funding a randomized controlled study in Wisconsin to assess the effectiveness of a at-home assessment, to working with the National Council on Aging (NCOA) on development of a national blueprint to prevent older adult falls. (Centers For Disease Control And Prevention, 2006, p. 62)

The National Center For Patient Safety (2004, p. 2) has developed a *The Falls Toolkit* for the Department of Veterans Affairs. This toolkit which includes videos, an instructor manual, brochures, and a CD-ROM of the falls toolkit website. While the toolkit is to be used by nursing homes, much of the materials can be used for elderly citizens who live at home.

The National Fire Protection Association (NFPA) along with a coalition of multi-disciplinary professionals developed *Remembering When: A Fire and Fall Prevention Program for Older Adults*. This program includes fire safety and fall prevention messages which target the elderly through a nostalgic delivery of injury prevention concepts. Together, members of the



coalition decide how to best approach the local senior population: through group presentations, doing home visits, and/or as part of a smoke alarm installation and fall prevention program. (National Fire Protection Association, 2007)

King County Washington Public Health Agency, King County Washington, along with local EMS agencies has developed a fall prevention program for the elderly. Their program offers the elderly home safety assessments and installation of free fall prevention devices. Firefighters and public fire educators perform the home assessments. They also install such risk reduction devices as tub grab bars, toilet assist bars, shower chairs, transfer benches, bed assist railings, wall grab bars, rug slips, bath mats, night lights, tread tape, smoke alarms, and carpet tape. The program identifies participants through Medical Incident Report Forms (people who have called the 911/EMS system for assistance). (King County Public Health, 2007)

In response to escalating concerns related to falls and fall-related injuries among the aging population, health and safety organizations led by the Home Safety Council, the National Council on the Aging and the Archstone Foundation, have collaborated in an initiative entitled *Falls Free: Promoting a National Falls Prevention Action Plan*. The National Action Plan

is a one of its kind monograph that addresses the challenges and barriers related to a national falls prevention initiative and outlines key strategies and action steps to help reduce fall dangers for older adults. The program includes free downloadable materials such as poster of safety tips, home assessment chart, medication tracker, exercise tips, and guide for activity center directors. (Home Safety Council, n.d.)

West Metro Fire Protection District of Lakewood Colorado developed a home safety checklist for senior citizens on fall and fire prevention. This checklist assists citizens and the fire service in completing an inspection of a home regarding safety, fall prevention, smoke alarms, carbon monoxide detectors, fire extinguishers, exiting and emergency procedures, kitchen, bedrooms, and the garage. (West Metro Fire Protection District, n.d.)

The City of Akron Fire Department Emergency Medical Services, the Area Agency on Aging (AAA) and the emergency departments of Akron's three general hospitals developed a "Gatekeeper" program. This program allowed emergency responders who are called to a home of an elderly patient to note situations that they believe are problematic and record them on a standard problem-report form. The AAA then reviews the forms several times a week. If the situation is judged to require

attention, the AAA and an assessor visit the home to evaluate the situation and assist the elderly person in resolving the fall hazards. The emergency responders received training on use of the form and how to evaluate a home. It was found that the responders do not have the time to conduct a detailed evaluation, however they can note and record situations that they believe warrant further investigation. Their criteria is social or living conditions such as lack of cleanliness, foul odors, poor lighting and medical or mental-health problems. (Gerson, Hoover, McCoy, & Palmisano, 1991)

In order to determine local resources available to assist with a fall reduction program for the City of Eau Claire, I met with Lisa Wells, the Caregiver Program Coordinator for the Eau Claire County Department of Aging & Resource Center. Ms. Wells explained that there is presently a program in place for elderly fall prevention in which she receives referrals from agencies such as doctor's offices, hospitals, medical clinics, and Meals on Wheels. (L. Wells, personal communication, August 8, 2007) If any of these agencies have a concern about an elderly person falling, or the potential for it, they fax her a referral form. (see Appendix B).

The criteria in place for usage of the form is that the person must be:

- Age 60 or older
- Open to a home visit
- Motivated to participate in the program
- Alert and oriented x 3 (or living with caregiver)

Ms. Wells will then contact the elderly person to arrange a visit. The home visit takes about 1 hour and includes two balance tests, reviews the patient's medications, and examines the home for fall or trip hazards. Most of Ms. Wells visits find problems with loose rugs or the lack of grab bars in the bathroom. The Caregiver Program does have federal grant money that can be used to purchase and install grab bars and other household items that can prevent falls. Ms. Wells stated that "due to the number of fall patients that you see, ECFD would be a perfect conduit for referrals." (L. Wells, personal communication, August 8, 2007). When asked if there are other agencies that would be a major stakeholder in this type of program Ms. Wells replied that the Department of Aging is the organization to start with and they are the major stakeholder in Eau Claire County for fall reduction. The majority of literature reviewed stressed the importance of partnering with other

community agencies to formulate a more effective fall reduction program in the City of Eau Claire.

#### Procedure

The stated purpose of this research is that ECFD does not have a fall or injury prevention program in place. The purpose of the research is to develop a comprehensive injury reduction program for elderly/physically handicapped citizens of the City of Eau Claire. The following procedures were used in developing this research:

- Determining the impact of falls as it pertains to injuries and deaths
- Financial costs to the patient
- Cause of falls in the elderly and physically handicapped population
- Fall prevention measures

Action research methodology was used to achieve this purpose. The main goal of utilizing the action research methodology was to solve an existing problem of the lack of a fall or injury prevention program in place for elderly/physically handicapped citizens in the City of Eau Claire, and to develop a new innovation program within ECFD that meets the needs of the community. To this end the following procedure was implemented.

It was necessary to begin by determining if there is a problem. Eau Claire Fire/Rescue participates in the National Fire Incident Reporting System (NFIRS). A NFIRS report is generated for each fire, rescue, EMS, or service response by ECFD. As a result, any response by ECFD that involved a fall in the years 2005 and 2006 was included. Because the research not only included elderly but also physically handicapped citizens all age groups were included in the data. In order to narrow the search, included is the number of incidents for 2005 and 2006 that involved Personal Medical Assistance responses (PMA's). PMA's are incidents that are determined by dispatch to be citizens who have fallen, and are not injured, simply need assistance getting back up.

Since the referenced files contain medical information, these individual files are subject to restrictions as per the Health Insurance Portability and Accountability Act of 1996 (HIPAA). As a result, individual reports are not referenced for retrieval purpose.

Reviewing the data for the number of fall patients in 2005 and 2006 was done by querying specific EMS reports available in the NFIRS reporting system that ECFD uses by the vendor Sungard HTE. The data was segregated by "Type of Injury" and then further segregated as to the factor that contributed most to the

cause of injury by "Falls". Reviewing the data for the number of PMA patients in 2005 and 2006 again the Sungard HTE NIFRS reporting system was used. When an engine company responds to a PMA patient the company officer fills out an EMS NIFRS report which categorizes the patient as a PMA giving an accurate accounting of patients that are not injured and simply need assistance back up.

A personal interview was conducted with Lisa Wells on August 8, 2007 at 1000 hours at her office in the Eau Claire County Court House complex at 728 2<sup>nd</sup> Ave Eau Claire Wisconsin. Her telephone number is 715-839-4750. Ms. Wells was selected due to the fact that she was the coordinator of the Caregiver Program for the Department of Aging and Resource Center for Eau Claire County. Following questions were asked of Ms. Wells:

- What qualifies a person to participate in the Caregiver Program?
- How do you presently receive referrals?
- Are there monies available for this project?
- What do you do during a home visit?
- Is this a program that ECFD could participate in?
- How would the county like to see ECFD participate?
- Are there any other agencies ECFD should be talking to on fall reduction?

Other research procedures used to complete this applied research project included literature searches conducted at the Learning Resource Center at the National Fire Academy in January of 2007 and an internet search using the key words "elderly fall".

The procedure for this research project requires consideration of a number of assumptions and limitations. For purposes of this research a variety of references were made for the demographic population age 65 or older. Examples are: older adult, senior or senior citizen, or elderly person are all assumed to apply to this demographic. Due to the fact that included in this project were not only elderly citizens but also physically handicapped, gathering and interrupting data from ECFD's reporting system lends itself to various assumptions and limitations. Due to the fact that physically handicapped citizens are included in this research the data compiled from NIFRS on falls did not include the >65 years of age parameter. The PMA data also does not include the >65 years parameter due to the fact that physically handicapped citizens are included in this data also. This was done on purpose because physically handicapped citizens along with elderly citizens were part of the problem statement.



## Results

This action research paper attempted to answer the three research questions as listed below to produce a final product.

**What programs have been initiated by other organizations to reduce falls and the associated injuries to the elderly and physically handicapped?** The answer to this question varied all the way from publications and videos to home visits and assessments given by trained EMS /fire personnel. The publications and videos were presented to elderly citizens usually in a group setting overviewing a fall reduction program, whereas the home visits and assessments were usually performed after a response to a fall by EMS/fire personnel. The personnel either did the assessments while they were on the scene of the incident or they were completed at a later date by personnel that may or may not be associated with the EMS/fire agency. Some agencies were then able to install fall reduction devices to prevent further falls.

**Why are the City of Eau Claire Fire/Rescue Department and associated agencies interested in a fall prevention/injury reduction program?** The research has shown that 13 percent of ECFD's total EMS responses are for falls. With the proportion of people age 65 and older in Eau Claire County at 12.2 percent, and the rate of growth for this demographic at 7.6 percent, over

the period of 10 years from 1990 to 2000, (U.S.Census Bureau, n.d.) ECFD can expect to see more of a demand on the department resources in the future. As one looking at potential healthcare costs for fall patients, the 526 patients that ECFD transported in 2006 for falls would cost approximately \$493.66 per patient (based on the average emergency department cost in Eau Claire County). This calculates to \$259,665 for that year. That figure does not take into account the average cost of a fall (\$12,048.15), if any of those patients were admitted to the hospital. (Wisconsin Department of Health and Family Services, 2006, p. 7)

**Who are the major stakeholders that are interested in participating in a fall prevention/injury reduction program?** The Eau Claire County Department of Aging is the lead agency for fall reduction in people over the age of 60. Lisa Wells, the Caregiver Program Coordinator, stated that her organization is the major stakeholder for fall reduction and that ECFD would be a perfect conduit for referrals of elderly falls. (L. Wells, personal communication, August 8, 2007)

A Suggested Operating Guideline (SOG)(see Appendix C) includes a patient contact assessment form (see Appendix D) which will be carried on ECFD's engines and ambulances. This assessment form will be filled out by ECFD personnel and then

forwarded to ECFD's EMS Battalion Chief. The form will be reviewed and if the fall patient meets the Eau Claire County Department of Aging's criteria their referral form will be faxed to them for follow-up. If the patient does not meet the criteria for the Department of Aging, and is physically handicapped, ECFD can contact the fall patient's home health care provider for assistance.

### Discussion

As the primary agency that responds to life threatening emergencies, the fire service has historically reacted to issues that present themselves. Over the past few decades the fire service has realized that there is a benefit to proactive measures to mitigate the causes of fires and other emergencies through prevention codes and enforcement. A fall prevention program is another proactive campaign in which the fire service can be a lead agency. As Tait and Taigman (2006) stated the elderly are frequent callers for emergency medical services. The fire/EMS services are readily able to see them in their homes and assess and observe their living conditions firsthand. This situation allows the fire/EMS services to be the first to assist the elderly. To further reinforce this line of thinking Weiss et al. (2003) stated that visits to patient's homes by EMS represent a unique opportunity for screening, education, and

intervention. The involvement of EMS in preventing injuries is a valuable service since it may help older adults maintain their independence.

Nearly 12 percent of the City of Eau Claire's population of 62,570 is over the age of 65 and that 25 percent of Eau Claire County's citizens over the age of 65 have a physical disability. With falls being the leading cause of death and hospitalization for the elderly population in Eau Claire County, and with the elderly population expected to grow significantly in the future, ECFD can expect fall type responses involving the elderly population to increase. Currently 16 percent of all EMS calls for the City of Eau Claire are fall type responses. With the elderly population increasing in the future it can be expected that the demand for already stressed EMS services will also increase. The days of throwing money at the problem by adding more personnel and equipment to the fire service are over. We must find creative and fiscally financial solutions to this problem.

Weiss et al. (2003) indicate that many homes visited by EMS have problems that could be easily and quickly improved. Unfortunately, many of the elderly do not recognize their problems and are unaware of the availability of help. (Gerson, Hoover, McCoy & Palmisano 1991) The collaboration of ECFD

partnering with Eau Claire County Department of Aging ECFD will become the core of the communities fall prevention program. This program will decrease the amount of suffering and cost due to falls to our elderly/physically handicapped population.

#### Recommendations

The research clearly indicated the problem of falls to the elderly/physically handicapped population will increase in both incidents and cost. This cost will impact both public and private sectors, and the quality of life for this demographic.

Falls are easily prevented with simple improvements in the home. The fire/EMS service has always been in the forefront when dealing with lives and property. A fall prevention program will fit into the scope and charge of the fire/EMS service. We need to take a proactive role in this sort of injury prevention.

The first recommendation is that ECFD initiate training to all personnel on fall prevention. This training should be given by the Eau Claire County Dept of Aging.

Second recommendation is for ECFD to accept and implement the proposed SOG (see Appendix C) and Fall Prevention Checklist (see Appendix D).

Third recommendation is that ECFD continue to develop relationships with other local agencies that work with the elderly/physically handicapped populations. This development

will only strengthen and benefit the elderly/physically handicapped and allow ECFD to be a lead agency when it comes to injury prevention.

### References

- Centers For Disease Control And Prevention. (2006). *Preventing falls among older adults*. Retrieved July 7, 2007, from <http://cdc.gov/ncipc/duip/preventadultfalls.htm>
- Centers For Disease Control And Prevention (2006). *CDC Injury Fact Book* (). Retrieved September 27, 2007 from [http://cdc.gov/ncipc/fact\\_book/factbook.htm](http://cdc.gov/ncipc/fact_book/factbook.htm)
- Colwell, C., Murphy, P., & Bryan, T. (2006). Geriatric Trauma. *EMERGENCY MEDICAL SERVICES*, 35(9), 135-140.
- Gerson, L., Hoover, R., McCoy, S., & Palmisano, B. (1991). Linking the Elderly to Community Services. *JEMS*, 16(6), 45-48.
- Home Safety Council. (). *National Action Plan to Reduce Falls in the Elderly*. Retrieved September 3, 2007, from Senior Journal Web Site: <http://seniorjournal.com/news/eldercare/5-04-12fallsprevention.htm>
- King County Public Health. (2007). *Emergency Medical Services: Fall Prevention for the Elderly*. Retrieved January 12, 2007, from King County Web Site: <http://metrokc.gov/health/ems/fallprevention.htm>

National Center For Patient Safety. (2004). *The Falls Toolkit: An Introduction*. Retrieved September 3, 2007, from Department of Veterans Affairs Web Site: [http://va.gov/ncps/safetytopics/fallstoolkit/getting\\_started/falls\\_toolkit\\_intro.pdf](http://va.gov/ncps/safetytopics/fallstoolkit/getting_started/falls_toolkit_intro.pdf)

National Fire Protection Association. (2007). *Remembering When: A Fire and Fall Prevention Program for Older Adults*. Retrieved September 3, 2007, from National Fire Protection Association Web Site: <http://www.nfpa.org/categoryList.asp?categoryID=203&URL=Learning/Public%20education/Remembering%20When%99>

Tait, C., & Taigman, M. (2006). Taking EMS into Tomorrow. *EMERGENCY MEDICAL SERVICES*, 35(9), 141-145.

U.S. Census Bureau. (). Retrieved September 3, 2007, from U.S. Census Bureau Web Site: <http://factfinder.census.gov>

U.S. Consumer Product Safety Commission (2003). *Special Report: Emergency Room Injuries Adults 65 and Older* (). : U.S. Consumer Product Safety Commission.

U.S Fire Administration (2005). *Leading Community Risk Reduction*. : .

Weiss, S., Chong, R., Ong, M., Ernst, A., & Balash, M. (2003). Emergency Medical Services Screening for Elderly Falls in the Home. *PREHOSPITAL EMERGENCY CARE*, 7(1), 79-84.



West Metro Fire Protection District. (n.d.). *Home Safety Checklist for Senior Citizens* [Brochure]. Lakewood, CO: Author.

Wisconsin Department Of Health And Family Services (). *State Injury Profile for Wisconsin* (). Retrieved July 7, 2007 from [http://cdc.gov/ncipc/stateprofiling/sip\\_wi.pdf](http://cdc.gov/ncipc/stateprofiling/sip_wi.pdf)

Wisconsin Department of Health and Family Services. (2006). *Burden of Injury in Wisconsin* [Brochure]. Wisconsin: Author. Retrieved September 3, 2007, from State of Wisconsin Web Site: <http://dhfs.wisconsin.gov/health/injuryprevention/pdffiles/injuryreport.pdf>

Wisconsin Department Of Health And Family Services (2005). *Eau Claire County's Older Population* (Summary File 3). Retrieved September 2, 2007 from <http://dhfs.wisconsin.gov/aging/demographics/sf3eauclaire.pdf>

Wisconsin Department of Health and Family Services. (2006). *Burden of Injury in Wisconsin* [Brochure]. Wisconsin: Author. Retrieved September 3, 2007, from State of Wisconsin Web Site: <http://dhfs.wisconsin.gov/health/injuryprevention/pdffiles/injuryreport.pdf>

## Appendix A

## Eau Claire Fire and Rescue Release Form

Date:	Incident #:	Address:			
Pt. Name (Last, First):		Sex:	DOB:	Tele #	
		M F			

  

Pulse	
SBP	
DBP	
RESP	

☐ Pt. Refused vitals

Any vital signs in gray areas require MCP notification.

**PMA patients only need questions 1, 2 and 3 answered.**

1. Is the patient alert and oriented, answering questions appropriately?	Yes	No	<i>If no, contact MCP (Medical Control Physician)</i>
2. Has the patient been offered the opportunity to call back at any time should he/she reconsider his/her refusal or if his/her condition changes?	Yes	No	<i>If no, advise the patient he/she may call back at any time</i>
3. Has the patient been consuming alcohol or using illegal drugs?	Yes	No	<i>If yes, contact MCP</i>
4. Has the patient been advised that refusal of treatment /transport may result in potential threat to life/limb?	Yes	No	<i>If no, advise the patient of such</i>
5. Does the patient express understanding of the risk of refusal of treatment and/or transport by EMS?	Yes	No	<i>If no, contact MCP</i>
6. Has or does any <u>potentially</u> life/limb threatening condition exist (e.g. chest pain, shortness of breath, major trauma, large wounds, severe weakness, etc.)	Yes	No	<i>If yes, contact MCP</i>
7. Is the patient a minor (<18 years of age)?	Yes	No	<i>If yes, see minor pt refusal decision tree</i>
8. Has the patient expressed suicidal or homicidal ideation or made a suicidal gesture or attempt?	Yes	No	<i>If yes, contact MCP for restrain and/or transport orders</i>

**Appendix B**



**Eau Claire County Department on Aging & Resource Center**

**FALL PREVENTION PROGRAM – FAX REFERRAL FORM**

**Fax #: (715) 839-4866 Lisa Wells, Coordinator: (715) 839-4750**

**GUIDELINES TO QUALIFY FOR THE  
STEP-BY-STEP FALL PREVENTION PROGRAM**

- ☐ Age 60 or older
- ☐ Open to a home visit
- ☐ Motivated to participate in the program
- ☐ Alert and oriented X 3 (or living with caregiver)

Client's Name: \_\_\_\_\_

Address: \_\_\_\_\_

City (circle one): Eau Claire, Altoona, Fall Creek, Augusta, Fairchild

Phone: \_\_\_\_\_

Reason for referral: \_\_\_\_\_  
\_\_\_\_\_

Name of person making referral: \_\_\_\_\_

Name of Agency: \_\_\_\_\_

Phone: \_\_\_\_\_

**Appendix C**

<b>EFFECTIVE DATE</b>	<b>LAST REVISION</b>	<b>PAGE</b>	<b>VOLUME</b>
September 9, 2007	September 9, 2007	1 OF 1	
<b>PART:</b> Administrative Guideline		<b>SUBJECT:</b> Fall Prevention Program	

**PURPOSE:**

To provide a guideline for Eau Claire Fire Department personnel when responding to a medical fall patient. This program will allow ECFD personnel to refer fall patients' to the Eau Claire County Department of Aging where fall prevention assistance will be offered to the patient. The purpose of this program is to allow the fall patient to continue living in their home and get them the necessary equipment or education in order for them to accomplish this.

**SCOPE:**

This policy applies to Eau Claire Fire Department personnel.

**GUIDELINE:**

When ECFD personnel respond to a fall either inside or just outside their residence ECFD personnel will make a determination on if this fall would have been preventable. Following are some examples of items that can cause a fall:

- ☐ Loose rugs
- ☐ Trip hazards on floor
- ☐ Clutter on floor
- ☐ No shower or bathtub non-skid strips
- ☐ No grab bars in shower or bathtub
- ☐ No nightlights
- ☐ Hazards on stairways

If it is determined that the fall was preventable the Fall Prevention Checklist form will be filled out and returned to the EMS Battalion Chief. This form will then be used to fill out the Eau Claire County Department of Aging Fall Prevention Form and faxed to the Department of Aging. The Department of Aging will contact the patient and schedule a home visit and falls assessment. When making multiple visits to the same fall patient fill out a form each time so a history can be developed on this patient.

## Appendix D



## Eau Claire Fire/Rescue Fall Prevention Checklist

### Fall Prevention Program Questionnaire

Is the patient:

- ☐ Age 60 or older
- ☐ Open to a home visit by the Eau Claire County Department of Aging
- ☐ Motivated to participate in the program
- ☐ Alert and oriented X 3 (or living with caregiver)

Date of Service \_\_\_\_\_ Incident # \_\_\_\_\_

Patient's Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Phone #: \_\_\_\_\_

Reason for referral:

- |  |   |
|--|---|
| <input type="checkbox"/> Hazards on stairway   | <input type="checkbox"/> Throw rugs                   |
| <input type="checkbox"/> No nightlights        | <input type="checkbox"/> Shower needs non-skid strips |
| <input type="checkbox"/> Grab bars in shower   | <input type="checkbox"/> Electrical cord trip hazard. |
| <input type="checkbox"/> Furniture trip hazard | <input type="checkbox"/> Clutter on floor             |
| <input type="checkbox"/> Other _____           | <input type="checkbox"/> Other _____                  |

Person making referral: \_\_\_\_\_

**Forward to EMS Battalion Chief**